



# TEST DATA OF SUS100512 SUCS100512

Regulated DC Power Supply  
Mar 28, 2005

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**COSEL CO.,LTD.**

## CONTENTS

|   |    |
|---|----|
| 1.Input Current (by Input Voltage) . . . . .                    | 1  |
| 2.Input Current (by Load Current) . . . . .                     | 2  |
| 3.Input Power (by Load Current) . . . . .                       | 3  |
| 4.Efficiency (by Input Voltage) . . . . .                       | 4  |
| 5.Efficiency (by Load Current) . . . . .                        | 5  |
| 6.Line Regulation . . . . .                                     | 6  |
| 7.Load Regulation . . . . .                                     | 7  |
| 8.Dynamic Load Response . . . . .                               | 8  |
| 9.Ripple Voltage (by Load Current) . . . . .                    | 9  |
| 10.Ripple-Noise . . . . .                                       | 10 |
| 11.Ripple Voltage (by Ambient Temperature) . . . . .            | 11 |
| 12.Ambient Temperature Drift . . . . .                          | 12 |
| 13.Output Voltage Accuracy . . . . .                            | 13 |
| 14.Time Lapse Drift . . . . .                                   | 14 |
| 15.Rise and Fall Time . . . . .                                 | 15 |
| 16.Minimum Input Voltage for Regulated Output Voltage . . . . . | 16 |
| 17.Overcurrent Protection . . . . .                             | 17 |
| 18.Figure of Testing Circuitry . . . . .                        | 18 |

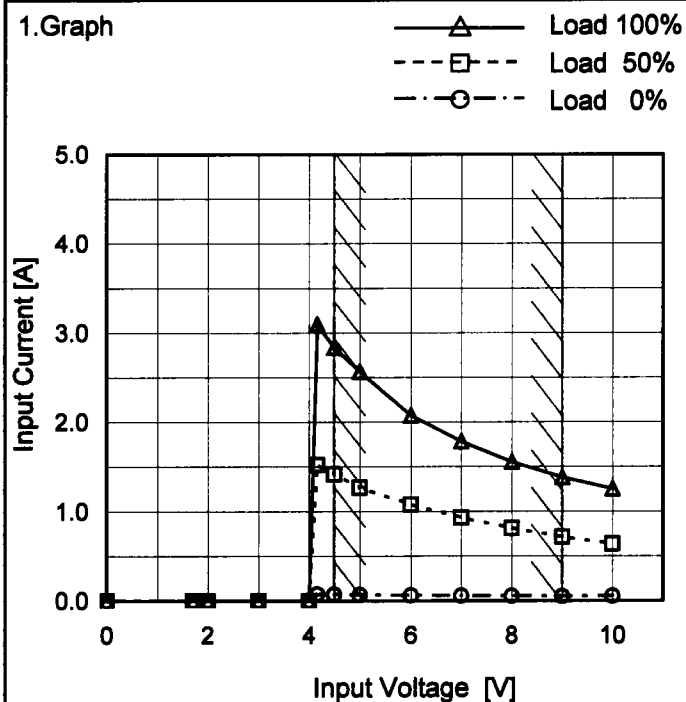
(Final Page 18)

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**Model** SUS100512/SUCS100512

**Item** Input Current (by Input Voltage)

**Object**
**Temperature** 25°C  
**Testing Circuitry** Figure A

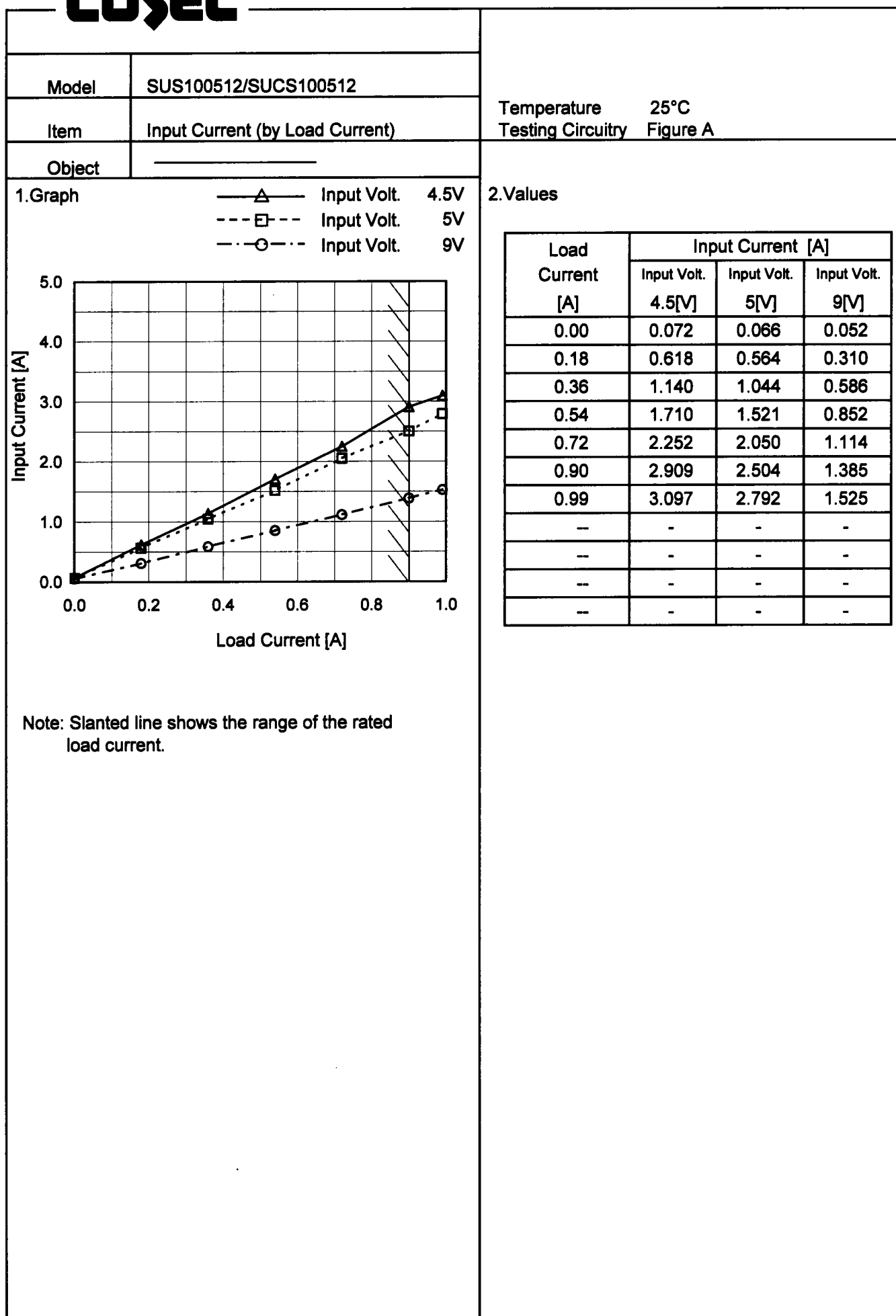
**1. Graph**


Note: Slanted line shows the range of the rated input voltage.

**2. Values**

| Input Voltage [V] | Input Current [A] |          |           |
|-------------------|-------------------|----------|-----------|
|                   | Load 0%           | Load 50% | Load 100% |
| 0.00              | 0.000             | 0.000    | 0.000     |
| 1.70              | 0.000             | 0.000    | 0.000     |
| 2.00              | 0.000             | 0.000    | 0.000     |
| 3.00              | 0.000             | 0.000    | 0.000     |
| 4.00              | 0.000             | 0.000    | 0.000     |
| 4.16              | 0.077             | 1.522    | 3.100     |
| 4.50              | 0.071             | 1.419    | 2.838     |
| 5.00              | 0.068             | 1.269    | 2.567     |
| 6.00              | 0.060             | 1.076    | 2.076     |
| 7.00              | 0.056             | 0.932    | 1.786     |
| 8.00              | 0.054             | 0.812    | 1.554     |
| 9.00              | 0.052             | 0.713    | 1.383     |
| 10.00             | 0.052             | 0.635    | 1.252     |
| --                | -                 | -        | -         |
| --                | -                 | -        | -         |
| --                | -                 | -        | -         |
| --                | -                 | -        | -         |
| --                | -                 | -        | -         |

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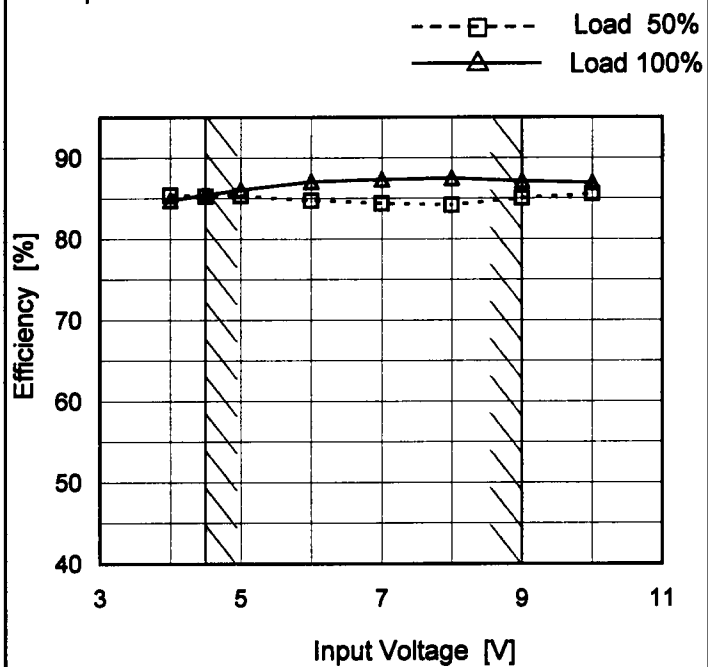
# COSEL

**Model** SUS100512/SUCS100512

**Item** Efficiency (by Input Voltage)

**Object**
**Temperature** 25°C  
**Testing Circuitry** Figure A

## 1. Graph



## 2. Values

| Input Voltage [V] | Efficiency [%] |           |
|-------------------|----------------|-----------|
|                   | Load 50%       | Load 100% |
| 4.0               | 85.4           | 84.8      |
| 4.5               | 85.3           | 85.4      |
| 5.0               | 85.3           | 86.1      |
| 6.0               | 84.7           | 87.1      |
| 7.0               | 84.4           | 87.3      |
| 8.0               | 84.2           | 87.5      |
| 9.0               | 85.0           | 87.1      |
| 10.0              | 85.6           | 86.9      |
| —                 | —              | —         |

**COSEL**

| Model   |                    | SUS100512/SUCS100512   |                  | Temperature 25°C           |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|---|--------------------|--|------------------|----------------------------|--|------------------|----------------|--|--|--------------------|------------------|------------------|------|---|---|---|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| Item  |                    | Efficiency (by Load Current)   |                  | Testing Circuitry Figure A |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| Object  |                    | _____  |                  |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 1.Graph   |                    | <div><div><div>—△—</div><div>Input Volt.</div><div>4.5V</div></div><div><div>---□---</div><div>Input Volt.</div><div>5V</div></div><div><div>-·-○-·-</div><div>Input Volt.</div><div>9V</div></div></div> <div><p>Efficiency [%]</p><p>Load Current [A]</p></div>  |                  | 2.Values                   |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|   |                    | <table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Efficiency [%]</th></tr><tr><th>Input Volt. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th></tr><tr><td>0.00</td><td>-</td><td>-</td><td>-</td></tr><tr><td>0.18</td><td>80.0</td><td>78.3</td><td>78.3</td></tr><tr><td>0.36</td><td>83.9</td><td>84.0</td><td>83.1</td></tr><tr><td>0.54</td><td>85.9</td><td>85.9</td><td>84.5</td></tr><tr><td>0.72</td><td>86.0</td><td>86.4</td><td>86.2</td></tr><tr><td>0.90</td><td>85.5</td><td>86.3</td><td>87.2</td></tr><tr><td>0.99</td><td>85.2</td><td>86.0</td><td>87.3</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table> |                  |                            |  | Load Current [A] | Efficiency [%] |  |  | Input Volt. 4.5[V] | Input Volt. 5[V] | Input Volt. 9[V] | 0.00 | - | - | - | 0.18 | 80.0 | 78.3 | 78.3 | 0.36 | 83.9 | 84.0 | 83.1 | 0.54 | 85.9 | 85.9 | 84.5 | 0.72 | 86.0 | 86.4 | 86.2 | 0.90 | 85.5 | 86.3 | 87.2 | 0.99 | 85.2 | 86.0 | 87.3 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A]  | Efficiency [%]     |  |                  |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|   | Input Volt. 4.5[V] | Input Volt. 5[V]   | Input Volt. 9[V] |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.00  | -                  | -  | -                |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.18  | 80.0               | 78.3   | 78.3             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.36  | 83.9               | 84.0   | 83.1             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.54  | 85.9               | 85.9   | 84.5             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.72  | 86.0               | 86.4   | 86.2             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.90  | 85.5               | 86.3   | 87.2             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.99  | 85.2               | 86.0   | 87.3             |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --  | -                  | -  | -                |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --  | -                  | -  | -                |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --  | -                  | -  | -                |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --  | -                  | -  | -                |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| Note: Slanted line shows the range of the rated load current. |                    |  |                  |                            |  |                  |                |  |  |                    |                  |                  |      |   |   |   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |

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|         |  |                      |  |
|---------|--|----------------------|--|
| Model   |  | SUS100512/SUCS100512 |  |
| Item    |  | Line Regulation      |  |
| Object  |  | +12V0.9A             |  |
| 1.Graph |  | 2.Values             |  |



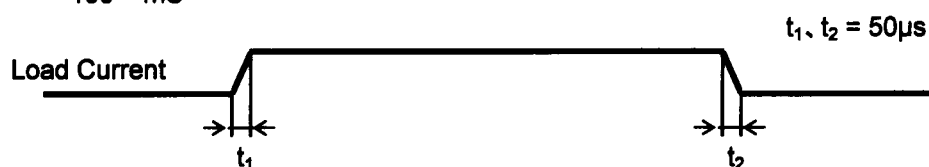
**COSEL**

| Model  | SUS100512/SUCS100512 |   |  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|--|----------------------|---|--|------------------|--------------------|--|--|--------------------|------------------|------------------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|------|--------|--------|--------|----|---|---|---|----|---|---|---|----|---|---|---|----|---|---|---|
| Item   | Load Regulation      |   | Temperature 25°C<br>Testing Circuitry Figure A |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| Object   | +12V0.9A             |   |  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 1.Graph  |                      | 2.Values  |  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| <div><div><div>—△—</div><div>Input Volt.</div><div>4.5V</div></div><div><div>---□---</div><div>Input Volt.</div><div>5V</div></div><div><div>---○---</div><div>Input Volt.</div><div>9V</div></div></div> <div></div> <div>Note: Slanted line shows the range of the rated load current.</div> |                      | <table><tr><th rowspan="2">Load Current [A]</th><th colspan="3">Output Voltage [V]</th></tr><tr><th>Input Volt. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th></tr><tr><td>0.00</td><td>12.057</td><td>12.058</td><td>12.057</td></tr><tr><td>0.18</td><td>12.056</td><td>12.056</td><td>12.055</td></tr><tr><td>0.36</td><td>12.055</td><td>12.055</td><td>12.054</td></tr><tr><td>0.54</td><td>12.053</td><td>12.054</td><td>12.054</td></tr><tr><td>0.72</td><td>12.051</td><td>12.051</td><td>12.052</td></tr><tr><td>0.90</td><td>12.048</td><td>12.049</td><td>12.051</td></tr><tr><td>0.99</td><td>12.046</td><td>12.047</td><td>12.050</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr><tr><td>--</td><td>-</td><td>-</td><td>-</td></tr></table> |  | Load Current [A] | Output Voltage [V] |  |  | Input Volt. 4.5[V] | Input Volt. 5[V] | Input Volt. 9[V] | 0.00 | 12.057 | 12.058 | 12.057 | 0.18 | 12.056 | 12.056 | 12.055 | 0.36 | 12.055 | 12.055 | 12.054 | 0.54 | 12.053 | 12.054 | 12.054 | 0.72 | 12.051 | 12.051 | 12.052 | 0.90 | 12.048 | 12.049 | 12.051 | 0.99 | 12.046 | 12.047 | 12.050 | -- | - | - | - | -- | - | - | - | -- | - | - | - | -- | - | - | - |
| Load Current [A]   | Output Voltage [V]   |   |  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|  | Input Volt. 4.5[V]   | Input Volt. 5[V]  | Input Volt. 9[V]                               |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.00   | 12.057               | 12.058  | 12.057   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.18   | 12.056               | 12.056  | 12.055   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.36   | 12.055               | 12.055  | 12.054   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.54   | 12.053               | 12.054  | 12.054   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.72   | 12.051               | 12.051  | 12.052   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.90   | 12.048               | 12.049  | 12.051   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| 0.99   | 12.046               | 12.047  | 12.050   |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --   | -                    | -   | -  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --   | -                    | -   | -  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --   | -                    | -   | -  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
| --   | -                    | -   | -  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |
|  |                      |   |  |                  |                    |  |  |                    |                  |                  |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |      |        |        |        |    |   |   |   |    |   |   |   |    |   |   |   |    |   |   |   |



|        |                       |                   |          |
|--------|-----------------------|-------------------|----------|
| Model  | SUS100512/SUCS100512  | Temperature       | 25°C     |
| Item   | Dynamic Load Response | Testing Circuitry | Figure A |
| Object | +12V0.9A              |                   |          |

Input Volt. 5 V  
Cycle 100 mS

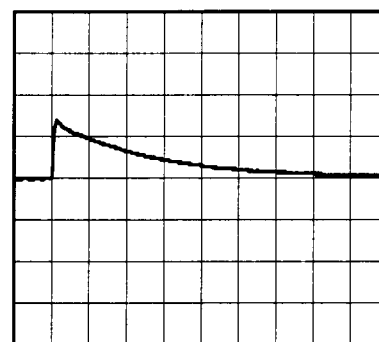


Min. Load (0A)  $\longleftrightarrow$   
Load 100% (0.9A)

200mV/div



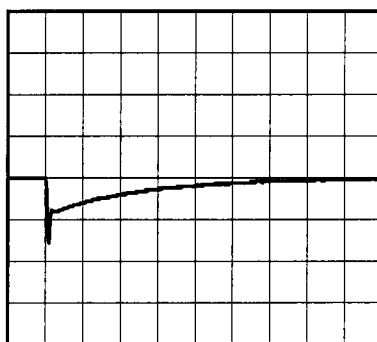
500µs/div



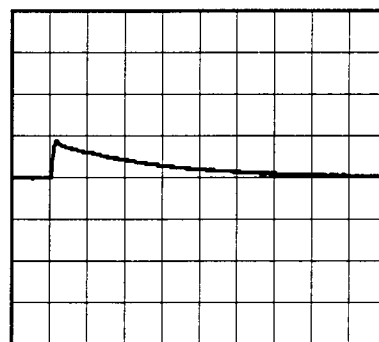
500µs/div

Min. Load (0A)  $\longleftrightarrow$   
Load 50% (0.45A)

200mV/div



500µs/div



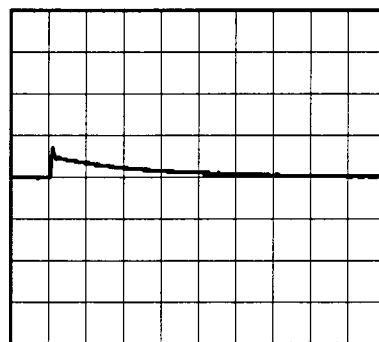
500µs/div

Load 50% (0.45A)  $\longleftrightarrow$   
Load 100% (0.9A)

200mV/div



500µs/div

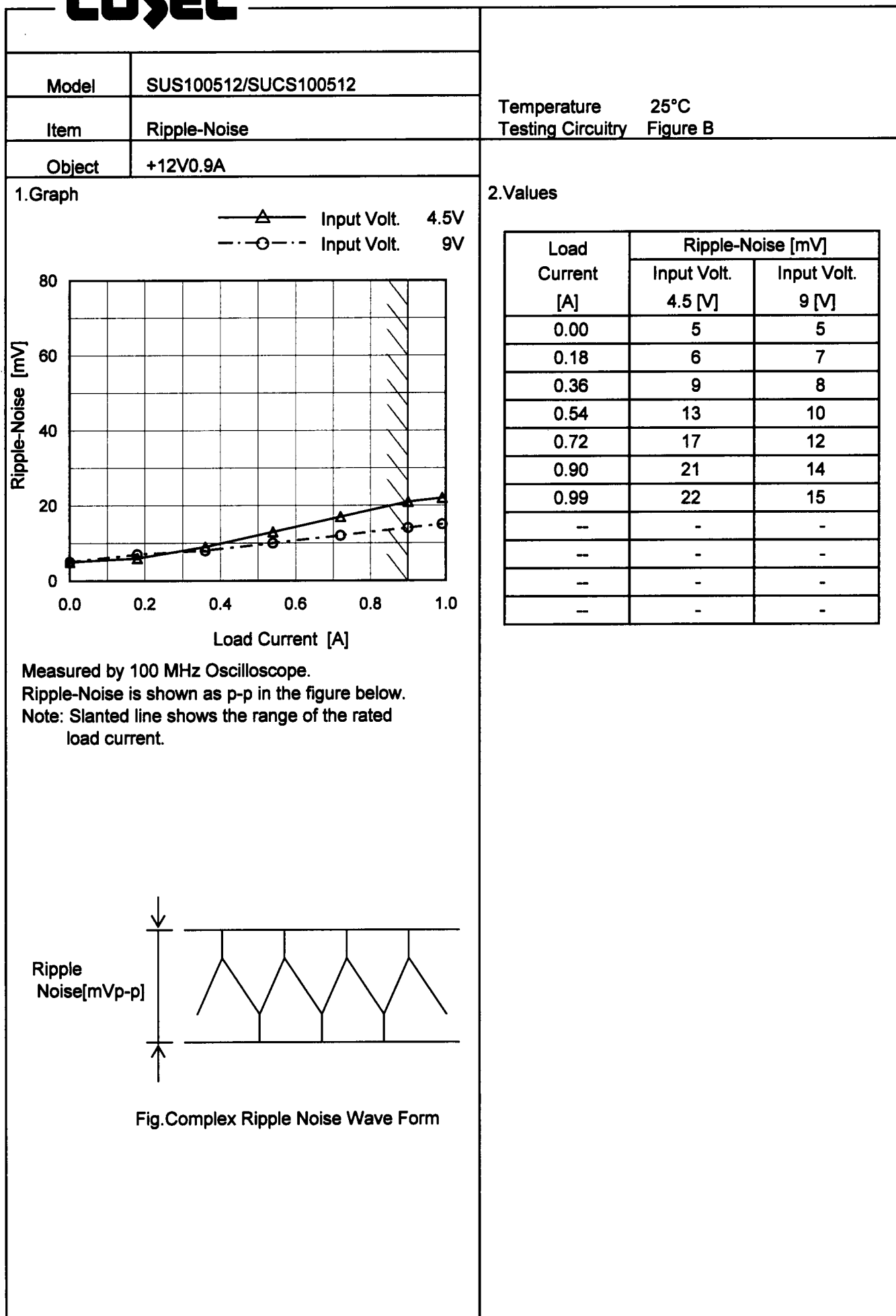


500µs/div

# COSEL

|   |  |                                  |  |                                  |                  |
|---|--|----------------------------------|--|----------------------------------|------------------|
| Model   |  | SUS100512/SUCS100512             |  | Temperature<br>Testing Circuitry | 25°C<br>Figure B |
| Item  |  | Ripple Voltage (by Load Current) |  |                                  |                  |
| Object  |  | +12V0.9A                         |  |                                  |                  |
| 1.Graph   |  |                                  |  |                                  |                  |
| <div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div>Input Volt.</div><div>4.5V</div></div><div><div>Input Volt.</div><div>9V</div></div></div> <div><div><div><div></div><div></div></div><div><div></div><div></div></div></div><div><div></div><div></div></div><div><div></div><div></div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> <div><div></div><div></div></div> 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<div><div>&lt;/</div></div> |  |                                  |  |                                  |                  |

# COSEL



# COSEL

|        |  |                                   |
|--------|--|-----------------------------------|
| Model  |  | SUS100512/SUCS100512              |
| Item   |  | Ripple Voltage (by Ambient Temp.) |
| Object |  | +12V0.9A                          |

1.Graph

---

□

---

Load 50%

—

△

—

Load 100%

80

60

40

20

0

Ripple Voltage [mV]

-60

-40

-20

0

20

40

60

Ambient Temperature [°C]

Input Volt.

5V

Measured by 100 MHz Oscilloscope.

Note: Slanted line shows the range of the rated ambient temperature.

2.Values

| Ambient Temperature [°C] | Ripple Voltage [mV] |           |
|--------------------------|---------------------|-----------|
|                          | Load 50%            | Load 100% |
| -60                      | 9                   | 16        |
| -40                      | 8                   | 14        |
| -20                      | 7                   | 13        |
| 0                        | 6                   | 11        |
| 25                       | 5                   | 9         |
| 55                       | 3                   | 6         |
| 60                       | 3                   | 6         |
| --                       | -                   | -         |
| --                       | -                   | -         |
| --                       | -                   | -         |
| --                       | -                   | -         |





|        |                         |                            |
|--------|-------------------------|----------------------------|
|        |                         | Testing Circuitry Figure A |
| Model  | SUS100512/SUCS100512    |                            |
| Item   | Output Voltage Accuracy |                            |
| Object | +12V0.9A                |                            |

### 1. Output Voltage Accuracy

This is defined as the value of the output voltage, regulation load, ambient temperature and input voltage varied at random in the range as specified below.

Temperature : -40 - 55°C

Input Voltage : 4.5 - 9V

Load Current : 0 - 0.9A

\* Output Voltage Accuracy =  $\pm(\text{Maximum of Output Voltage} - \text{Minimum of Output Voltage}) / 2$

\* Output Voltage Accuracy (Ration) =  $\frac{\text{Output Voltage Accuracy}}{\text{Rated Output Voltage}} \times 100$

### 2. Values

| Item            | Temperature<br>[°C] | Input<br>Voltage[V] | Output     |            | Output Voltage Accuracy |            |
|-----------------|---------------------|---------------------|------------|------------|-------------------------|------------|
|                 |                     |                     | Current[A] | Voltage[V] | Value [mV]              | Ration [%] |
| Maximum Voltage | 0                   | 4.5                 | 0          | 12.059     | ±13                     | ±0.1       |
| Minimum Voltage | -40                 | 4.5                 | 0.9        | 12.033     |                         |            |

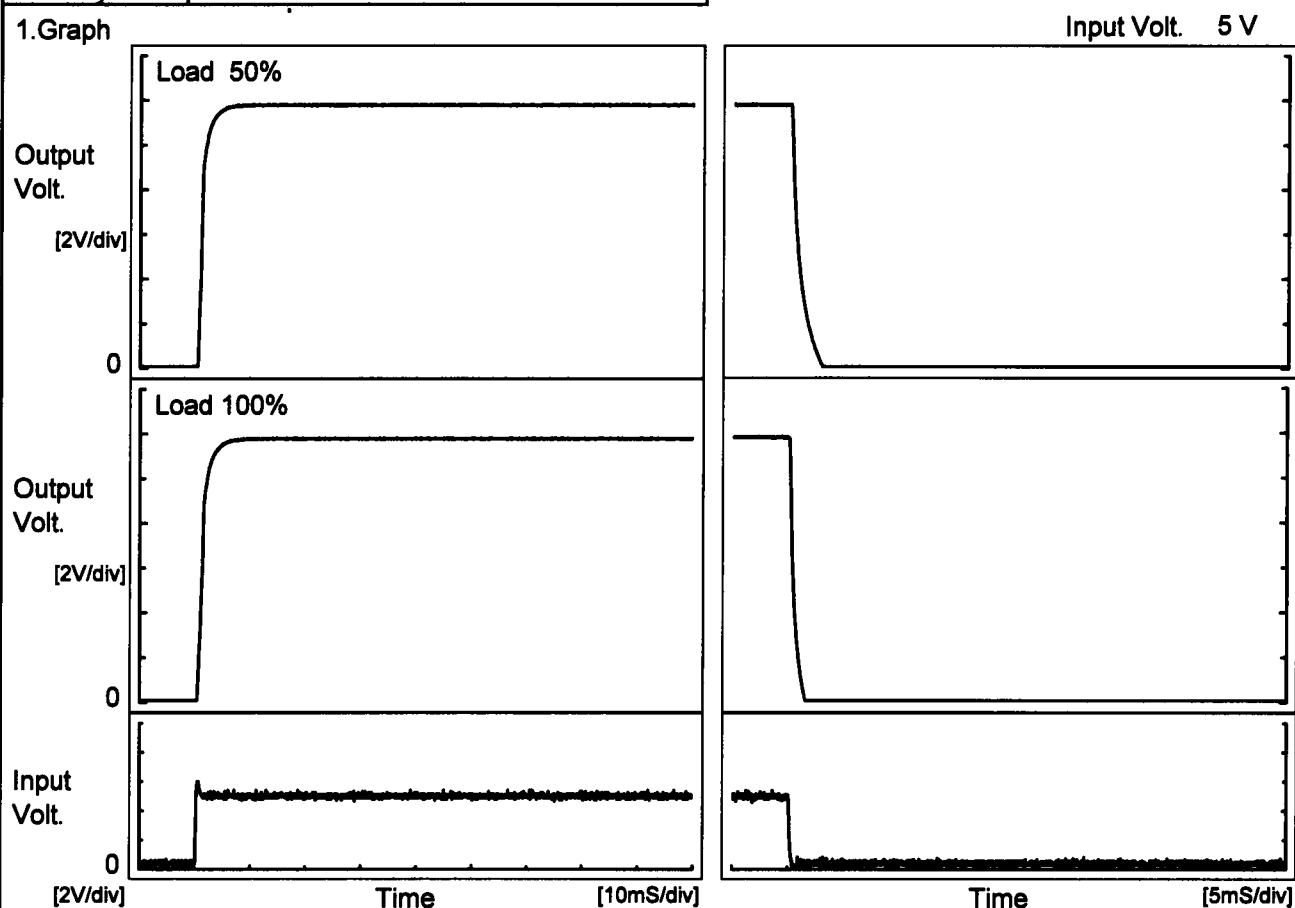
**COSEL**

| Model   | SUS100512/SUCS100512 |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
|---|----------------------|--|----------|----------------------|--------------------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|-----|--------|
| Item  | Time Lapse Drift     | Temperature  | 25°C     |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| Object  | +12V0.9A             | Testing Circuitry  | Figure A |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 1.Graph   |                      | 2.Values   |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| <div><div><div>12.30</div><div>12.20</div><div>12.10</div><div>12.00</div><div>11.90</div><div>11.80</div><div>11.70</div><div>11.60</div></div><div><div>0</div><div>2</div><div>4</div><div>6</div><div>8</div><div>10</div></div><div><div>Output Voltage [V]</div><div>Time [H]</div></div><div><div>Input Volt.5V</div><div>Load100%</div></div></div> |                      | <table><tr><th>Time since start [H]</th><th>Output Voltage [V]</th></tr><tr><td>0.0</td><td>12.053</td></tr><tr><td>0.5</td><td>12.051</td></tr><tr><td>1.0</td><td>12.051</td></tr><tr><td>2.0</td><td>12.052</td></tr><tr><td>3.0</td><td>12.052</td></tr><tr><td>4.0</td><td>12.052</td></tr><tr><td>5.0</td><td>12.052</td></tr><tr><td>6.0</td><td>12.052</td></tr><tr><td>7.0</td><td>12.052</td></tr><tr><td>8.0</td><td>12.052</td></tr></table> |          | Time since start [H] | Output Voltage [V] | 0.0 | 12.053 | 0.5 | 12.051 | 1.0 | 12.051 | 2.0 | 12.052 | 3.0 | 12.052 | 4.0 | 12.052 | 5.0 | 12.052 | 6.0 | 12.052 | 7.0 | 12.052 | 8.0 | 12.052 |
| Time since start [H]  | Output Voltage [V]   |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 0.0   | 12.053               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 0.5   | 12.051               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 1.0   | 12.051               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 2.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 3.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 4.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 5.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 6.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 7.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |
| 8.0   | 12.052               |  |          |                      |                    |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |     |        |



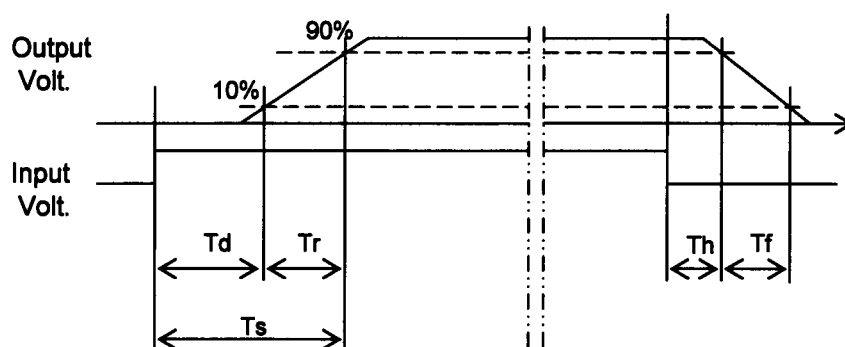
|        |                      |                   |          |
|--------|----------------------|-------------------|----------|
|        |                      |                   |          |
| Model  | SUS100512/SUCS100512 |                   |          |
| Item   | Rise and Fall Time   | Temperature       | 25°C     |
|        |                      | Testing Circuitry | Figure A |
| Object | +12V0.9A             |                   |          |

## 1. Graph



## 2. Values

|       |      | [mS] |     |     |     |     |
|-------|------|------|-----|-----|-----|-----|
| Load  | Time | Td   | Tr  | Ts  | Th  | Tf  |
| 50 %  |      | 0.6  | 2.3 | 2.9 | 0.2 | 1.9 |
| 100 % |      | 0.6  | 2.6 | 3.2 | 0.2 | 0.9 |



# COSEL

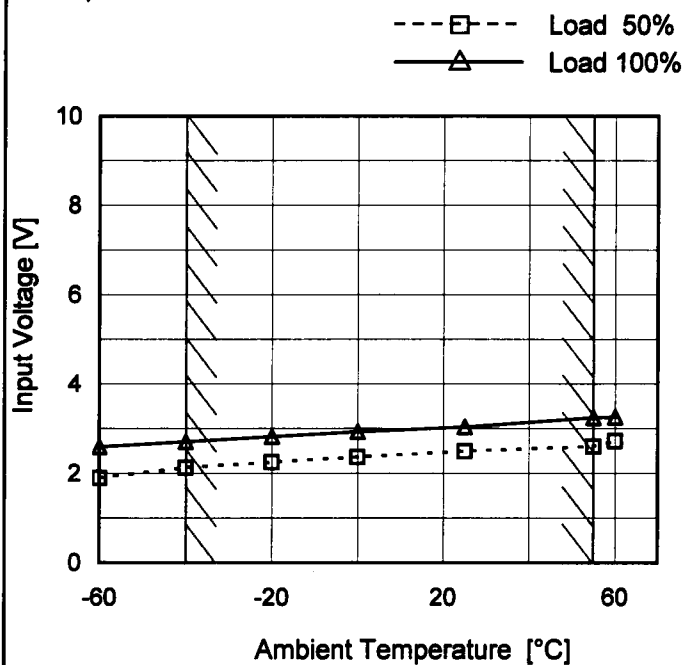
Model SUS100512/SUCS100512

Item Minimum Input Voltage  
for Regulated Output Voltage

Object +12V0.9A

Testing Circuitry Figure A

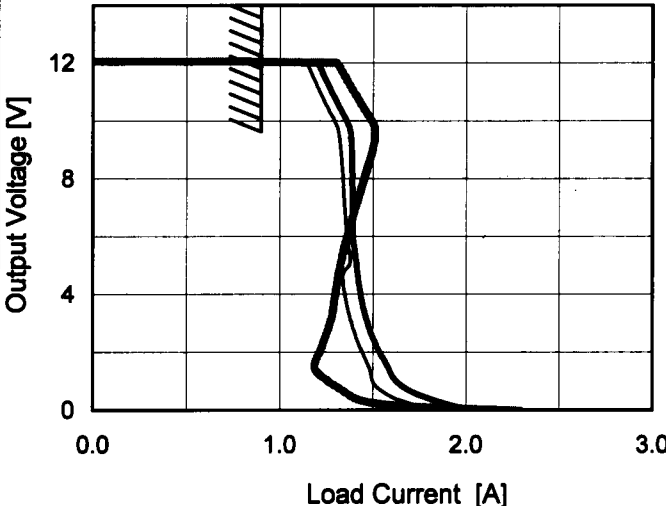
## 1. Graph



## 2. Values

| Ambient Temperature [°C] | Input Voltage [V] |           |
|--------------------------|-------------------|-----------|
|                          | Load 50%          | Load 100% |
| -60                      | 1.9               | 2.6       |
| -40                      | 2.2               | 2.8       |
| -20                      | 2.3               | 2.9       |
| 0                        | 2.4               | 3.0       |
| 25                       | 2.5               | 3.1       |
| 55                       | 2.6               | 3.3       |
| 60                       | 2.8               | 3.3       |
| —                        | —                 | —         |
| —                        | —                 | —         |
| —                        | —                 | —         |
| —                        | —                 | —         |

**COSEL**

| Model   | SUS100512/SUCS100512   |   |                            |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
|---|------------------------|---|----------------------------|--------------------|------------------|--|--|--------------------|------------------|------------------|------|------|------|------|------|------|------|------|------|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|-----|------|------|------|
| Item  | Overcurrent Protection |   | Temperature 25°C           |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| Object  | +12V0.9A               |   | Testing Circuitry Figure A |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 1.Graph   |                        | 2.Values  |                            |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| <div><div><div></div><div></div><div></div></div><div><div>Input Volt. 4.5V</div><div>Input Volt. 5V</div><div>Input Volt. 9V</div></div></div> <div><p>Note: Slanted line shows the range of the rated load current.</p></div> |                        | <table><tr><th rowspan="2">Output Voltage [V]</th><th colspan="3">Load Current [A]</th></tr><tr><th>Input Volt. 4.5[V]</th><th>Input Volt. 5[V]</th><th>Input Volt. 9[V]</th></tr><tr><td>12.0</td><td>1.14</td><td>1.20</td><td>1.30</td></tr><tr><td>11.4</td><td>1.19</td><td>1.25</td><td>1.36</td></tr><tr><td>10.8</td><td>1.23</td><td>1.30</td><td>1.42</td></tr><tr><td>9.6</td><td>1.32</td><td>1.38</td><td>1.51</td></tr><tr><td>8.4</td><td>1.33</td><td>1.39</td><td>1.47</td></tr><tr><td>7.2</td><td>1.35</td><td>1.39</td><td>1.41</td></tr><tr><td>6.0</td><td>1.36</td><td>1.39</td><td>1.36</td></tr><tr><td>4.8</td><td>1.35</td><td>1.42</td><td>1.32</td></tr><tr><td>3.6</td><td>1.36</td><td>1.45</td><td>1.29</td></tr><tr><td>2.4</td><td>1.42</td><td>1.51</td><td>1.24</td></tr><tr><td>1.2</td><td>1.49</td><td>1.60</td><td>1.21</td></tr><tr><td>0.0</td><td>1.87</td><td>2.05</td><td>2.30</td></tr></table> |                            | Output Voltage [V] | Load Current [A] |  |  | Input Volt. 4.5[V] | Input Volt. 5[V] | Input Volt. 9[V] | 12.0 | 1.14 | 1.20 | 1.30 | 11.4 | 1.19 | 1.25 | 1.36 | 10.8 | 1.23 | 1.30 | 1.42 | 9.6 | 1.32 | 1.38 | 1.51 | 8.4 | 1.33 | 1.39 | 1.47 | 7.2 | 1.35 | 1.39 | 1.41 | 6.0 | 1.36 | 1.39 | 1.36 | 4.8 | 1.35 | 1.42 | 1.32 | 3.6 | 1.36 | 1.45 | 1.29 | 2.4 | 1.42 | 1.51 | 1.24 | 1.2 | 1.49 | 1.60 | 1.21 | 0.0 | 1.87 | 2.05 | 2.30 |
| Output Voltage [V]  | Load Current [A]       |   |                            |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
|   | Input Volt. 4.5[V]     | Input Volt. 5[V]  | Input Volt. 9[V]           |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 12.0  | 1.14                   | 1.20  | 1.30                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 11.4  | 1.19                   | 1.25  | 1.36                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 10.8  | 1.23                   | 1.30  | 1.42                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 9.6   | 1.32                   | 1.38  | 1.51                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 8.4   | 1.33                   | 1.39  | 1.47                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 7.2   | 1.35                   | 1.39  | 1.41                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 6.0   | 1.36                   | 1.39  | 1.36                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 4.8   | 1.35                   | 1.42  | 1.32                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 3.6   | 1.36                   | 1.45  | 1.29                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 2.4   | 1.42                   | 1.51  | 1.24                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 1.2   | 1.49                   | 1.60  | 1.21                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |
| 0.0   | 1.87                   | 2.05  | 2.30                       |                    |                  |  |  |                    |                  |                  |      |      |      |      |      |      |      |      |      |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |     |      |      |      |

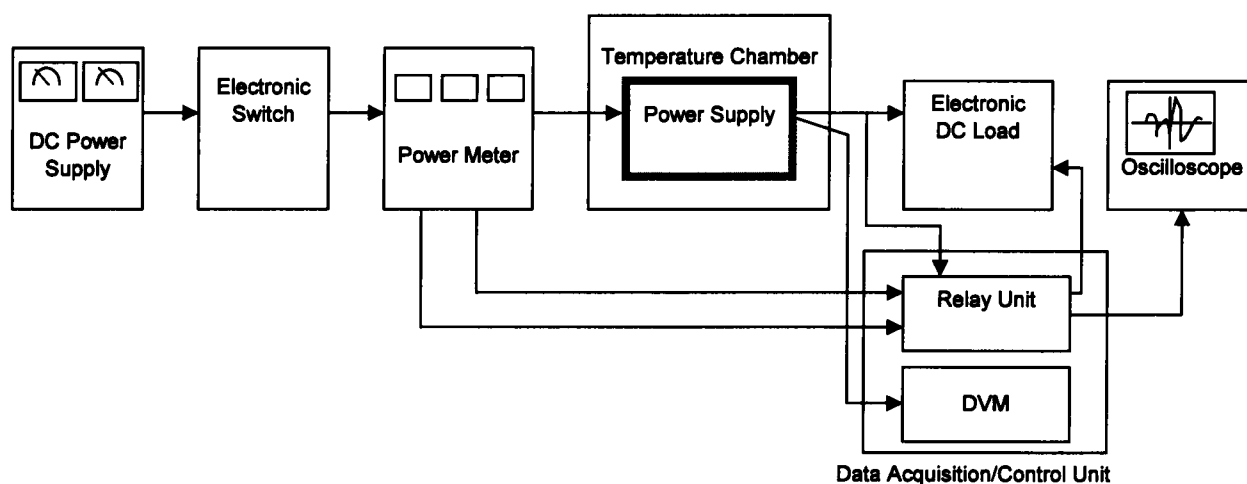


Figure A

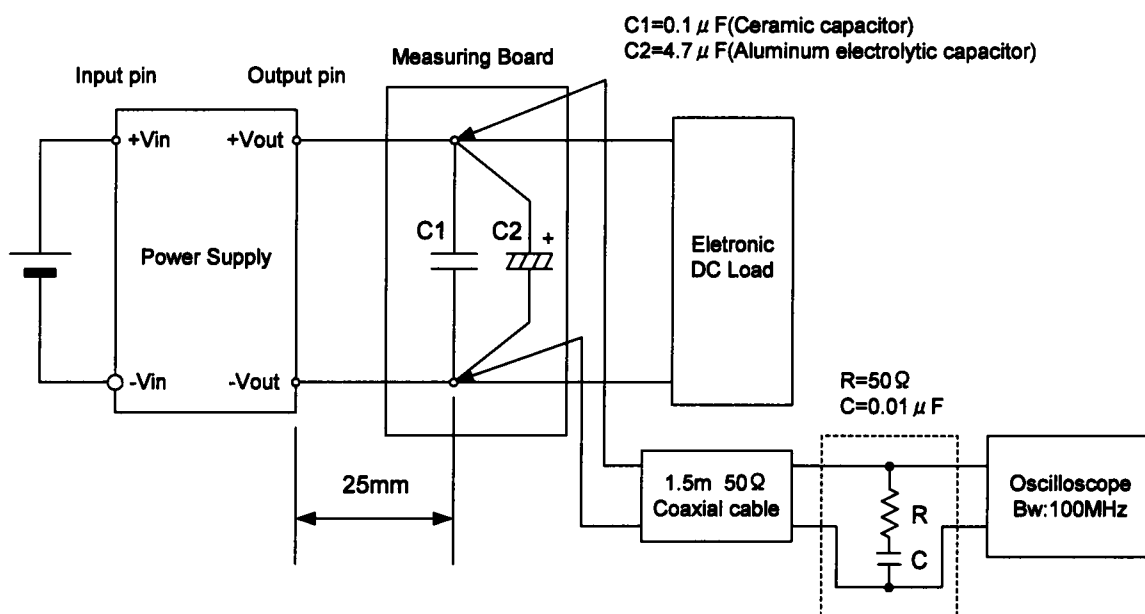


Figure B(Ripple and Ripple noise Characteristic)